

REMARKS

Claims 1-16 stand rejected under 35 USC §103(a) as being unpatentable over Sullivan et al., U.S. patent 4,745,297 in view of Hefti, U.S. Patent Application Publication US 20030032067 A1.

Claims 1 and 7 have been amended to more clearly state the invention. Reconsideration and allowance of each of the pending claims 1-16, as amended, is respectfully requested.

Sullivan et al., U.S. patent 4,745,297 discloses a specimen holder for use in an ion beam sputter coating machine to prepare a specimen placed on a specimen stub for analysis by a scanning electron microscope. The specimen holder is comprised of two planar members, each containing a plurality of openings sufficient in size to hold a specimen stub, with screws projecting through the lip of the upper planar member to allow the specimen holder to securely hold the specimen stubs within the openings in the planar member. The lower planar member has a limited rotation, in relation to the upper planar member, to prevent the specimen stubs from falling through the openings in the specimen holder.

Hefti, U.S. Patent Application Publication US 20030032067 A1 discloses a bio-assay test system that includes a test fixture, a measurement system, and a computer. The test fixture includes a bio-assay device having a signal path and a retaining structure configured to place a sample containing molecular structures in electromagnetic communication with the signal path. The measurement system is configured to transmit test signals to and to receive test signals from the signal path at

one or more predefined frequencies. The computer is configured to control the transmission and reception of the test signals to and from the measurement system.

FIG. 3A illustrates in a side view one possible embodiment of the test fixture 300 in accordance with the present invention. Test fixture 300 includes a top plate 302 and a bottom plate 304. Top plate 302 includes ports 350a and 350b for injecting the sample solution. Top plate 302 further includes the top half of a sample cavity 340a. Bottom plate 304 includes the bottom half of the sample cavity 340b. In the preferred embodiment, top and bottom plates 302 and 304 are each composed of machined stainless steel and each measures 0.0320 cm.times.1.575 cm.times.3.15 cm. Contained within the sample cavity 340 is a reaction vessel 310, an O-ring 320, a bio-assay device 400 (further described in FIG. 4 below), and a bottom spacer 330. Reaction vessel 310 includes ports 312a and 312b for receiving the sample. Reaction vessel 310 further includes an O-ring cavity 318 for accommodating the O-ring 320. O-ring 320 is positioned between the reaction vessel 310 and the bio-assay device 400 to secure the sample along the bio-assay device 400. Bio-assay device 400 provides the signal path and bioelectrical interface along which the MBR will form. Bottom spacer 330 is provided to elevate the bio-assay device 400 to the proper height so that it may couple to input and output transmission lines (not shown) formed between the top and bottom plates 302 and 304.

Applicants respectfully submit that as amended, each of the independent claims 1 and 7 further define the function of the o-ring of the invention and each of the independent claims 1 and 7 is patentable.

In accordance with features of the invention as described at page 4 of the specification, the SEM holder apparatus 100 is a quick mount multiple sample holder, that saves vent time between samples, which can be up to 5 minutes per sample, and eliminates SEM down time due to sample removal and replacement. SEM holder apparatus 100 enables a one-time setup for multiple sample examination, such as to examine up to 10 samples. SEM holder apparatus 100 is especially useful for numerous, routine samples that are common in many material, hospital, industrial, college and university labs along with applications in manufacturing and development markets that typically would include inspection and process quality control sample inspections.

In accordance with features of the invention as described at page 5 of the specification, the O-ring 140 is used like an elastic band around the sample holders 120. The O-ring 140 in the SEM holder apparatus 100 provides elastic tension to one side of the sample holder through holes 112. In the SEM holder apparatus 100, positive holding pressure due to the O-ring 140 protruding partially into the sample holder through holes 112 ensures a secure mounting that provides the required electrical conductivity and vibration suppression. The O-ring 140 in the SEM holder apparatus 100 eliminates the need for retaining set screws of conventional SEM sample holder arrangements.

Claim 1, as amended, recites a method for implementing enhanced examination of multiple samples comprising the steps of: providing a metal plate including a plurality of through holes arranged in a predefined pattern, a mounting

opening, and an O-ring receiving recess extending within said metal plate to said plurality of through holes; inserting a plurality of sample holders, each within a selected one of said through holes; and installing an O-ring within said O-ring receiving recess to engage each of said plurality of sample holders and to provide positive holding pressure for a secure mounting of said plurality of sample holders.

Claim 7, as amended, recites a scanning electron microscope (SEM) holder apparatus for implementing enhanced examination of multiple samples comprising: a metal plate, said metal plate including a plurality of through holes arranged in a predefined pattern, a mounting opening, and an O-ring receiving recess extending within said metal plate to said plurality of through holes; a plurality of sample holders, each received within a selected one of said plurality of through holes; and an O-ring received within said O-ring receiving recess to engage each of said plurality of sample holders and to provide positive holding pressure for a secure mounting of said plurality of sample holders.

Neither Sullivan et al. nor Hefti teach or suggest the subject matter of the invention as recited by independent claims 1 and 7. More particularly, the total teaching Sullivan et al. and Hefti fail to suggest or provide any motivation for a SEM holder apparatus having an O-ring receiving recess extending within said metal plate to said plurality of through holes or an O-ring received within said O-ring receiving recess to engage each of said plurality of sample holders and to provide positive holding pressure for a secure mounting of said plurality of sample holders. Sullivan et al. teaches a SEM holder having adjustment screws, used to tighten or hold the samples in place. Hefti

discloses the use of an o-ring that is positioned between the reaction vessel 310 and the bio-assay device 400 to secure the sample along the bio-assay device 400. Hefti adds nothing to render obvious the claimed invention. Hefti provides no motivation or suggestion of a SEM holder apparatus having an O-ring receiving recess extending within said metal plate to said plurality of through holes or an O-ring received within said O-ring receiving recess to engage each of said plurality of sample holders and to provide positive holding pressure for a secure mounting of said plurality of sample holders, as taught and claimed by Applicants. Thus, each of the independent claims 1 and 7 is patentable.

Dependent claims 2-6 and 8-16 further define the invention of patentable claims 1 and 7 and are likewise patentable.

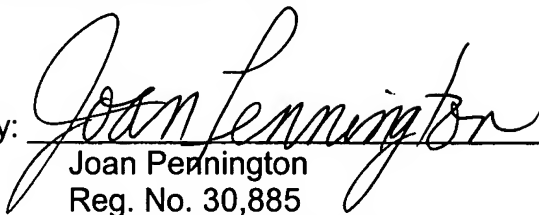
Applicants have reviewed all the art of record, and respectfully submit that the claimed invention is patentable over all the art of record, including the references not relied upon by the Examiner for the rejection of the pending claims.

It is believed that the present application is now in condition for allowance and allowance of each of the pending claims 1-16 is respectfully requested. Prompt and favorable reconsideration is respectfully requested.

If the Examiner upon considering this amendment should find that a telephone interview would be helpful in expediting allowance of the present application, the Examiner is respectfully urged to call the applicants' attorney at the number listed below.

Serial No. 10/728,298

Respectfully submitted,

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